



United States Department of Agriculture
Natural Resources Conservation Service

helping people help the land

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Air Quality Accomplishments Fiscal Year 2015

California Farmers Achieve Even Further Emissions Reductions in 2015

While California is home to some of the worst air quality in the nation, farmers continue to reduce on-farm emissions. In 2015, California's farmers voluntarily used seven conservation practices for an investment of approximately \$38 million.

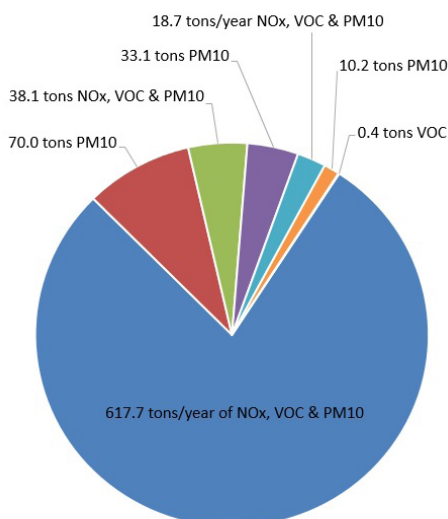
Overall in 2015, NRCS's air quality practices will reduce oxides of nitrogen (NOx), volatile organic compounds (VOC), and particulate matter (PM) by more than 788 tons.

Voluntary conservation practices can significantly reduce and improve air pollution. To address the air quality resource concerns on farms and ranches, NRCS in California provides customers with technical and financial support through the Environmental Quality Incentives Program (EQIP). When NRCS's 2015 investment of \$19 million, through 606 conservation contracts, is matched by farmers' contributions, the overall investment doubles.

Beginning with the 2008 Farm Bill, financial assistance offered through EQIP has helped accelerate the use of conservation practices that use management or cleaner air technologies to reduce emissions. The voluntary emission reductions achieved through conservation helps improve air quality, public health and welfare, and progress towards achieving "attainment" of the National Ambient Air Quality Standards (NAAQS) under the Clean Air Act.



Fiscal Year 2015 - California Air Quality Initiatives
Estimated Emission Reductions



- Off-Road Mobile Engines: Reduce diesel exhaust emissions by permanently removing in-use mobile ag equipment and replacing with new "like" equipment powered with the latest Tier-emissions certified diesel engines.
- Treating Unpaved Roads: Applying SC250 dust suppressants to unpaved roads and equipment areas for limiting fugitive dust and PM10 emissions generated from vehicle traffic.
- Chipping Orchard Debris: Avoid smoke from open burning by chipping the woody orchard removal debris and utilizing the chips to generate renewable electricity at a biomass-fueled power plant.
- Tillage Pass Reductions: Combine tillage operations by utilizing equipment that allows for multiple operations in a single pass, which reduces fugitive dust and PM emissions.
- Irrigation Engine Improvements: Reduce or eliminate diesel exhaust emissions by permanently removing in-use irrigation engines and replacing with new Tier-emissions certified diesel engines or new electric motors.
- Residue & Tillage Management: Reduce fugitive dust and PM emissions by limiting soil disturbances and leaving crop residue on the soil surface.
- Precision Pesticide Application: Adopt new pesticide spray technologies that provide at least 20% VOC reduction and addresses specific management of variable pest populations.



NRCS's National Air Quality Initiative Meets State Implementation Plan Goals

In 2009, NRCS launched the National Air Quality Initiative (NAQI) to help farmers replace their old, inefficient tractors with newer, cleaner-burning equipment. NRCS provides financial assistance to permanently destroy Tier 0 engines with Tier 3 or 4 systems. The higher the Tier level, the cleaner-burning the equipment is.

Priority is targeted to farms in counties that EPA has designated as "nonattainment" for ozone and/or particulate matter. These counties experience air pollution levels that persistently exceed the National Ambient Air Quality Standards (NAAQS) established by the Clean Air Act.

The funding statewide from 2009 - 2015 totals \$138 million after replacing more than 2,800 old, polluting tractors and other farm equipment. By destroying the old engines, the environment receives the assurances that old, polluting engines won't reappear somewhere else down the road. The emissions reductions achieved by NAQI in California, through 2015, is equivalent to having removed more than 900,000

cars from California roads -- and the number continues to grow.

The work done through NAQI has helped farmers in the San Joaquin Valley achieve and take credit for their contributions to improve air quality through the State Implementation Plan (SIP), a set of air quality goals implemented for the state.

Destroy the in-use equipment...



...and replace with new equipment



This "credit" is a reduction of five to ten tons of NOx per day from agricultural operations. NRCS's programs help achieve a reduction of approximately 6.48 tons of NOx per day.

The San Joaquin Valley Air Pollution Control District (SJVAPCD) administers incentive programs that are similar to the NAQI, including the Carl Moyer Program, which works in tandem with NRCS to replace as many equipment powered by Tier 0 engines as available funding allows. When the SJVAPCD reductions are added to NRCS, the combined NOx reductions surpasses 10 tons per day.

"Leaders in the agriculture industry have done an outstanding job working with the air district and NRCS supporting and educating farmers to replace their older, inefficient tractors with

cleaner burning units," said Aaron Tarango, representative for SJVAPCD.

Brief Explanation of the Diesel-Engine Tier Levels

The US EPA began the first set of Tier-certified emission standards for nonroad diesel engines in 1996. Uncontrolled diesel engines, also referred to as "Tier 0," release the greatest amounts of diesel exhaust emissions. The emissions control levels range from Tier 1, the first applied emission standards, to Tier 4 by decreasing diesel exhaust emissions over 90 percent. Operating the cleanest Tier-certified diesel engines provide farmers the assurance that they meet current air quality emission standards and the peace of mind that they are doing their part to help improve air quality.